Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) A method for labeling genetic material, the method comprising:

a) disrupting cells so as to liberate genetic material contained in the cells;

b) contacting the genetic material to a column in a manner to cause the genetic material to become immobilized to the column;

c) fragmenting and labeling the immobilized genetic material within the column at the same time via a free radical-mediated process ,whereby free radicals facilitate oxidative strand scission of nucleic acids within the genetic material, resulting in the formation of the aldehyde forms of ribose or deoxyribose; and

d) eluting the labeled material from the column, wherein the method occurs within 20 minutes.

2. (Currently Amended) A method for labeling genetic material, the method comprising:

a) disrupting cells so as to liberate genetic material contained in the cells;

b) contacting the genetic material to a column in a manner to cause the genetic material to become immobilized to the column;

c) fragmenting and labeling the immobilized genetic material at the same time via a free radical-mediated procedure , whereby free radicals cause oxidative

strand scission of nucleic acids in the genetic material; and

d) eluting the labeled material from the column wherein the step of labeling the genetic material further comprises maintaining the column at a temperature of between 45 °C and 100 °C.

3. (Original) The method as recited in claim 1 wherein the column comprises a means for subjecting the silica to pressure.

4. (Original) The method as recited in claim 3 wherein the pressure means is a syringe.

5. (Currently Amended) A method for labeling genetic material, the method comprising:

a) disrupting cells so as to liberate genetic material contained in the cells;

b) contacting the genetic material to a column in a manner to cause the genetic material to become immobilized to the column;

c) fragmenting and labeling the immobilized genetic material at the same time; and

d) eluting the labeled material from the column wherein the step of labeling the genetic material comprises:

e) contacting double-stranded nucleic acid molecules of the genetic material with free radical-generating complexes for a time and at concentrations sufficient to produce free-aldehyde moieties via oxidative strand scission of nucleic acid in the genetic material;

f) reacting the aldehyde moieties with amine to produce a condensation product; and

g) contacting the condensation product with a chromophore.

6. (Original) The method as recited in claim 5 wherein the step of contacting the condensation product with a chromophore further comprises reducing the condensation product and cross-linking the reduced condensation product with the chromophore in one reaction step.

7. (Original) The method as recited in claim 1 wherein the column is a solid substrate selected from the group consisting of silica, ground glass filter, pulped glass filter, HNO3-washed glass filter pulp, HNO3-washed gel, HNO3-washed diatoms, silicic acid 400 mesh silica gel, SPE-SIL and combinations thereof.

8. (Currently Amended) A two-buffer process for labeling genetic material, the process comprising:

a) contacting cells containing the genetic material to a silica column;

b) creating a first fraction of cell detritus and a second fraction containing the genetic material;

c) confining the genetic material to the column;

d) removing the cell detritus;

e) subjecting the genetic material to free radicals ,wherein the free radicals facilitate oxidative strand scission of nucleic acids in the genetic material so as to produce reactive aldehyde groups on the genetic material; and

f) attaching chromophore to the genetic material while the material resides in the column.

9. (Currently Amended) A two-buffer process for labeling nucleic acids ~~genetic material~~, the process comprising:

a) contacting cells containing the ~~genetic material~~ nucleic acids to a silica

column;

b) creating a first fraction of cell detritus and a second fraction containing the ~~genetic material~~ nucleic acids;

c) confining the ~~genetic material~~ nucleic acids to the column;

d) removing the cell detritus;

e) subjecting the ~~genetic material~~ nucleic acids to free radicals to facilitate oxidative strand scission of the nucleic acids so as to produce reactive aldehyde groups on the genetic material; and

f) attaching chromophore to the genetic material wherein the genetic material is contacted with radical in aerobic conditions wherein the steps of attaching chromophore occurs at the same time that the reactive aldehyde groups are produced.

10. (Currently Amended) A two-buffer process for isolation of genetic material, followed by labeling of the genetic material, the process comprising:

a) contacting cells containing the genetic material to a silica column;

b) creating a first fraction of cell detritus and a second fraction containing the genetic material;

c) confining the genetic material to the column;

d) removing the cell detritus;

e) subjecting the genetic material to free radicals to facilitate oxidative scission of nucleic acids in the genetic material so as to produce reactive aldehyde groups on the genetic material; and

f) attaching chromophore to the genetic material wherein the genetic mate rial is contacted with radical in anaerobic conditions, wherein the steps of attaching chromophore occurs at the same time that the reactive aldehyde groups are produced.

11. (Original) The process as recited in claim 8 wherein the step of creating a fraction of cell detritus and the genetic material comprises contacting the cells with a

lysis buffer.

12. (Original) The process as recited in claim 8 wherein steps a) through f) occur in approximately 20 minutes.

13. (Currently Amended) A two-buffer process for isolation of genetic material, followed by labeling of the genetic material, the process comprising:

a) contacting cells containing the genetic material to a silica column;

b) creating a first fraction of cell detritus and a second fraction containing the genetic material;

c) confining the genetic material to the column;

d) removing the cell detritus;

e) subjecting the genetic material to free radicals ,whereby the free radicals facilitate oxidative strand scission of nucleic acids in the genetic material so as to produce reactive aldehyde groups on the genetic material; and

f) attaching chromophore to the genetic material wherein the two buffers comprise a first buffer to lyse the cells and a second buffer to attach the genetic material to the column, wherein the steps of attaching chromophore occurs at the same time that the reactive aldehyde groups are produced.

14. (Original The process as recited in claim 13 wherein the first buffer and second buffer contain guanidine thyocianate and EDTA.

15. (Original) The process as recited in claim 13 wherein the first buffer and the second buffer contact the cells simultaneously.

16. (Original) The process as recited in claim 8 wherein the genetic material is bound to chromophore in aerobic conditions.

17. (Original) The process as recited in claim 8 wherein the genetic material is bound to chromophore in anaerobic conditions.

18. (Original) The process as recited in claim 13 wherein the first buffer and the second buffer are present in a relative weight ratio of 9:4.

19. (Original) The process as recited in claim 8 wherein the temperature is maintained at 95 °C.

20. (Previously Presented) The method as recited in claim 2 wherein the column comprises a means for subjecting the silica to pressure.

21. (Previously Presented) The method as recited in claim 1 wherein the step of labeling the genetic material comprises:

a) contacting nucleic acid molecules of the genetic material with radical-generating complexes for a time and at concentrations sufficient to produce free-aldehyde moieties;

b) reacting the aldehyde moieties with amine to produce a condensation product; and

c) contacting the condensation product with a chromophore.

22. (Previously Presented) The method as recited in claim 21 wherein the step of contacting the condensation product with a chromophore further comprises reducing the condensation product and cross-linking the reduced condensation product with the chromophore in one reaction step.

23. (Previously Presented) The process as recited in claim 9 wherein the genetic material is bound to chromophore in aerobic conditions.

24. (Previously Presented) The process as recited in claim 10 wherein the genetic material is bound to chromophore in anaerobic conditions.

25. (Previously Presented) The process as recited in claim 8 wherein the two buffers comprise a first buffer to lyse the cells and a second buffer to attach the genetic material to the column.

26. (Currently Amended) A process for fragmenting and labeling DNA and RNA contained in a lysate, the process comprising:

a) contacting the lysate with a first column packed with material so as to confine the DNA to the first column and allow the RNA to pass through the first column;

b) contacting the passed through RNA to a second column packed with material so as to confine the RNA to the second column;

c) subjecting the confined DNA and confined RNA to free radicals ,whereby the free radicals facilitate oxidative strand scission of the DNA and RNA so as to produce reactive aldehyde groups on the DNA and RNA;

d) attaching chromophore to the DNA and RNA wherein the steps of attaching chromophore occurs at the same time that the reactive aldehyde groups are produced; and

e) eluting the DNA from the first column and the RNA from the second column, wherein a first buffer is utilized to lyse cells containing the DNA and RNA and also to attach the DNA to the first column and a second buffer is used to attach RNA to the second column.

27. (Previously Presented) The process as recited in claim 26 wherein the entire process occurs within 20-30 minutes.